

# engbers22\_magic

September 9, 2022

## 0.1 Conversion of Engbers et al. (2022) supplemental data file to MagIC

- read in useful modules from PmagPy and pandas
- create locations table
  - read in excel table, sheet name PSVM\_CS1
  - put in DOIs for citations (from Engbers publication reference list)
    - \* note: had to change Dossing to read properly
  - convert column headers to MagIC format versions
  - fix a few country mishaps
  - add in missing meta data
  - write to magic format (tab delimited) locations.txt file
- create sites table
  - pick out columns related to sites
  - change column headers to MagIC formatted versions
  - put on Engbers et al. DOI into citations column
  - fix or add missing metadata
  - write to magic format (tab delimited) sites.txt file
- create upload file and validate
- upload to private contribution, validate and publish

```
[60]: import pmagpy.pmag as pmag
import pmagpy.pmagplotlib as pmagplotlib
import pmagpy.ipmag as ipmag
import pandas as pd # and of course Pandas
%matplotlib inline
print('All modules imported!')
```

All modules imported!

## 0.2 make a locations table

```
[62]: master_df=pd.read_excel('2022gc010480-sup-0002-data set si-s01.
→xlsx',sheet_name='PSVM_CS1')
dois_df=pd.read_csv('study_doi.txt',sep='\t',header=0)
```

```

master_df=master_df.merge(dois_df,on='reference')
locations_df=pd.DataFrame()
locations_df['location']=master_df['location'].unique()
locations_meta=master_df[['location','psvm_location','Lat_ave','Long_Ave','doi']]
locations_meta.columns=['location','country','lat_n','lon_e','citations']
locations_meta.loc[locations_meta['country']=='USA','country']='United States of America'
locations_meta.loc[locations_meta['country']=='United States','country']='United States of America'
locations_meta.loc[locations_meta['country']=='Canary Islands','country']='Spain'
locations_meta.loc[locations_meta['country']=='French Antarctica','country']='Antarctica'
locations_meta.loc[locations_meta['country']=='Fernando de Noronha','country']='Brazil'
locations_meta.drop_duplicates(inplace=True)
locations_df=locations_df.merge(locations_meta,on='location',how='inner')
locations_df['lat_n']=locations_df['lat_n'].round(3)
locations_df['lon_e']=locations_df['lon_e'].round(3)
locations_df['lat_s']=locations_df['lat_n']
locations_df['lon_w']=locations_df['lon_e']
locations_df['location_type']='outcrop'
locations_df['method_codes']='LP-DIR'
locations_df['geologic_classes']='Igneous'
locations_df['lithologies']='Not Specified'
locs=locations_df['location'].unique()
for l in locs:
    l_df=master_df[master_df['location']==l]
    age_low=l_df['age'].min()
    age_high=l_df['age'].max()
    locations_df.loc[locations['location']==l,'age_low']=age_low
    locations_df.loc[locations['location']==l,'age_high']=age_high
locations_df['age_unit']='Ma'
pmag.magic_write('locations.txt',locations_df,'locations',dataframe=True)

```

32 records written to file locations.txt

[62]: (True, 'locations.txt')

### 0.3 make a sites table

```

[74]: sites_df=master_df[['site_ID','site','age','site_lat','Site_lon','model_lat','model_long','dec
    ↳
    ↳'kdir','alpha95','Polarity','model_vgp_lat','model_vgp_lon','location','doi']]

```

```

sites_df.
↳columns=['site_alternatives','site','age','lat','lon','paleolat','paleolon','dir_dec','dir_
↳
↳'dir_n_samples','dir_k','dir_alpha95','dir_polarity','vgp_lat','vgp_lon','location','citati
sites_df['citations']=sites_df['citations']+'10.1029/2022GC010480'
sites_df['age_unit']='Ma'
sites_df['dir_polarity']=sites_df['dir_polarity'].str.lower()
sites_df['geologic_classes']='Igneous:Extrusive'
sites_df['geologic_types']='Lava Flow'
sites_df['lithologies']='Not Specified'
sites_df['method_codes']='LP-DIR'
ipmag.magic_write('sites.txt',sites_df,'sites',dataframe=True)

```

1121 records written to file sites.txt

[74]: (True, 'sites.txt')

[75]: ipmag.upload\_magic()

```

-I- /Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/locations.txt
file successfully read in
32 records written to file
/Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/upload.txt
-I- /Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/locations.txt
written to
/Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/upload.txt
-I- /Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/sites.txt file
successfully read in
1121 records written to file
/Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/upload.txt
-I- /Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/sites.txt written
to /Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/upload.txt
Finished preparing upload file:
/Users/ltauxe/SpareRoom/Work/TODO/MagIC_uploads/engbers_22/Akaroa-volcano_Baja-
California-Sur_Bambouto_09.Sep.2022_10.txt
Validating upload file with public endpoint
status_code= 200

```

[75]: ('/Users/ltauxe/SpareRoom/Work/TODO/MagIC\_uploads/engbers\_22/Akaroa-volcano\_Baja-California-Sur\_Bambouto\_09.Sep.2022\_10.txt',  
{'status': True,  
'validation': {'errors': [], 'warnings': []},  
'warnings': None},  
None,  
None)

[ ]: